

Title (en)  
Pin charge corotron with optimum dimensions for minimum ozone production

Title (de)  
Corotronaufladungsgerät mit Stiften von optimaler Grösse zur minimaler Ozonerzeugung

Title (fr)  
Générateur de charge à effet Corona avec des aiguilles de dimensions optimisées de manière à réduire au minimum la production d'ozone

Publication  
**EP 0917012 A2 19990519 (EN)**

Application  
**EP 98121377 A 19981110**

Priority  
US 97107397 A 19970822

Abstract (en)  
[origin: US5845179A] A charging apparatus for applying a uniform electrostatic charge to a charge retentive surface is provided. The apparatus includes a housing and an array of pin electrodes supported by the housing and positioned adjacent the surface in a non-contact relationship. The apparatus also includes a generally U shaped shield connected to the housing and at least partially surrounding the array of pin electrodes. The apparatus also includes a grid positioned across distal ends of the shield. The grid defines an effective charge length and an effective grid width. The apparatus also includes a power supply operatively coupled to the pin electrodes for supplying a predetermined current to each of the pin electrode. The power supply provides a predetermined voltage to the grid. At least one of the magnitude of the current, the magnitude of the voltage, the effective charge length, and the effective grid width being selected so as to optimize the charge uniformity, to minimize the sensitivity to photoreceptor grid sensitivity, and to minimize the ozone generated within the charging apparatus.

IPC 1-7  
**G03G 15/02**; **H01T 19/04**

IPC 8 full level  
**B60T 8/36** (2006.01); **B60T 13/68** (2006.01); **B60T 15/02** (2006.01); **F15B 13/044** (2006.01); **F16K 31/06** (2006.01); **G03G 15/02** (2006.01)

CPC (source: EP US)  
**B60T 8/362** (2013.01 - EP US); **B60T 15/027** (2013.01 - EP US); **F15B 13/044** (2013.01 - EP US); **G03G 15/0291** (2013.01 - EP US)

Citation (applicant)  
• US 4533230 A 19850806 - FLETCHER GERALD M [US], et al  
• US 4585320 A 19860429 - ALTAVELA ROBERT P [US], et al  
• US 4803512 A 19890207 - OGURA MITSURU [JP], et al  
• US 5051781 A 19910924 - ROEHRS DANIEL C [US], et al  
• US 5216465 A 19930601 - ARAI AKIO [JP], et al  
• US 5602712 A 19970211 - DAIFUKU HIDEHARU [JP], et al  
• US 5666605 A 19970909 - TOKIMATSU HIROYUKI [JP], et al  
• MADHAV S. PHADKE: "quality engineering using robust design", 1989, PRENTICE HALL

Cited by  
US7187534B2; US6909867B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**US 5845179 A 19981201**; BR 9804611 A 19991103; DE 69823306 D1 20040527; EP 0917012 A2 19990519; EP 0917012 A3 20000503; EP 0917012 B1 20040421; JP H11219004 A 19990810

DOCDB simple family (application)  
**US 97107397 A 19970822**; BR 9804611 A 19981112; DE 69823306 T 19981110; EP 98121377 A 19981110; JP 32431298 A 19981116